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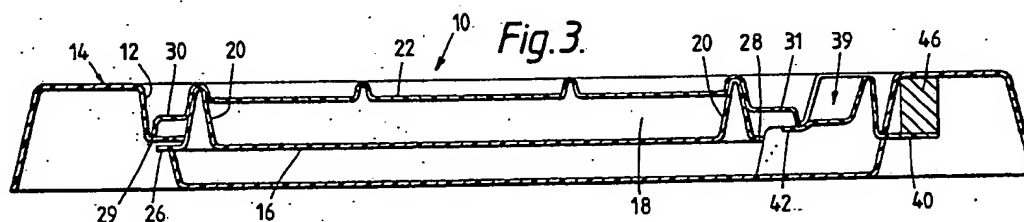
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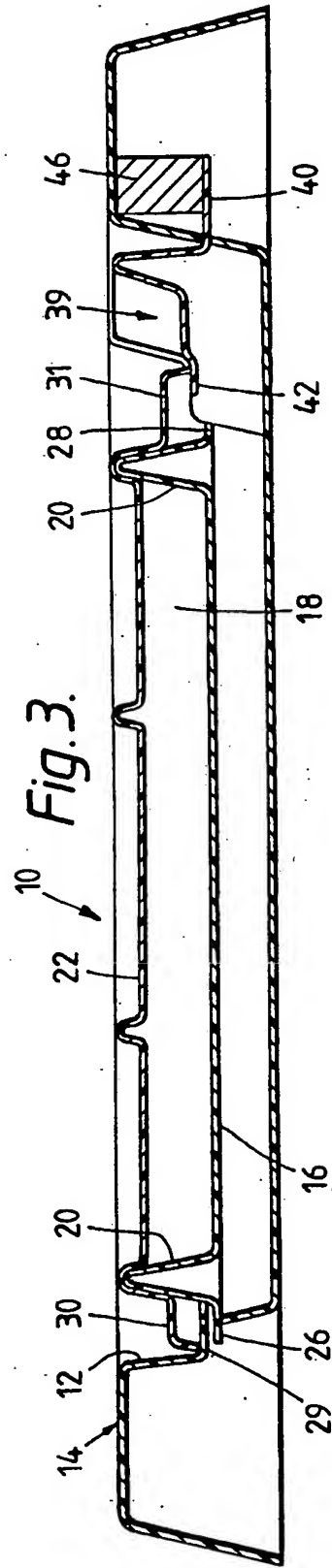
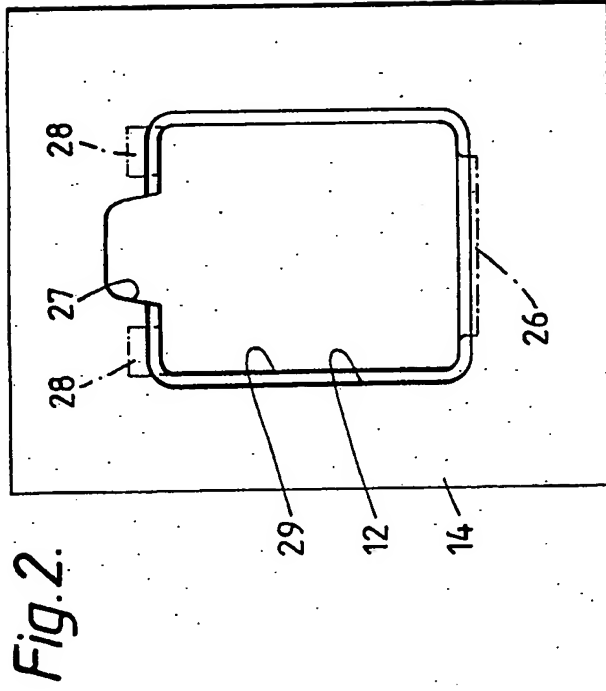
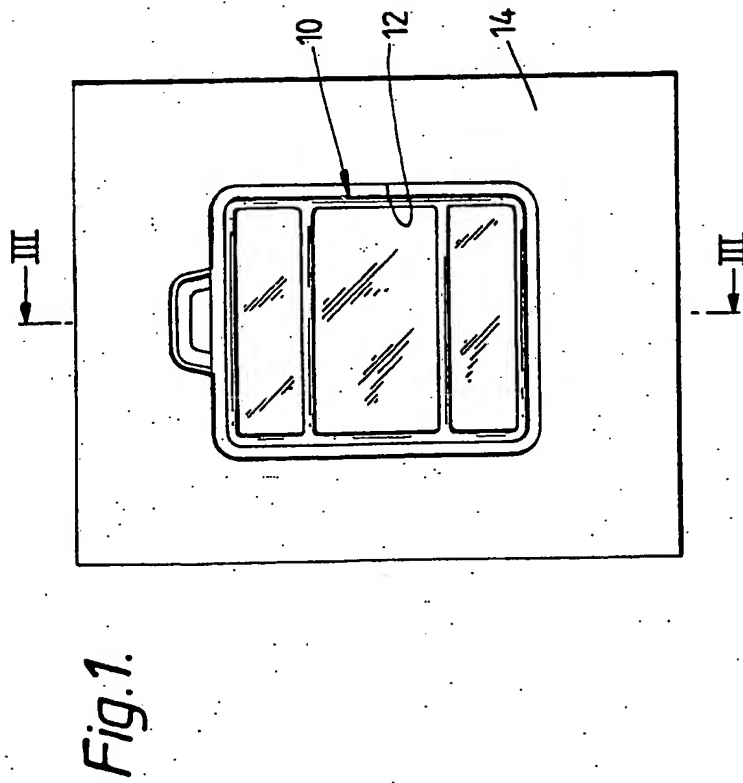
(54) Means for storing a safety device

(57) A storage pack 10 for a fire and smoke mask, of plastics film, for use in emergency escape from a burning passenger aircraft, for example, is adapted for fitting to the underside of a meals tray mounted in the rear of the back of each seat of the aircraft. The pack incorporates a flat compartment for the folded mask, defined between a tray 16 and a lid removable manually from the tray. The pack is vacuum sealed so that the lid is held in place primarily by vacuum, assisted by low-strength sealant between the tray 16 and the lid, whereby once the pack has been opened it cannot be surreptitiously fixed in place again by unauthorised persons tinkering with the pack, so that the fact that the pack has been interfered with will be immediately evident upon inspection.



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The drawing(s) originally filed was (were) informal and the print here reproduced is taken from a later filed formal copy.



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DESCRIPTION OF INVENTION

Title: "Means for storing a safety device"

THIS INVENTION relates to means for storing a safety device such as a fire and smoke mask in a location of possible need, for example in a manner readily accessible to a passenger in an aircraft or vehicle. It has already been proposed to provide, as a means of assisting the safe escape of passengers from a burning aircraft or vehicle, a simple, compactly packable fire and smoke mask having the basic form of a bag of appropriate sheet material which the passenger should pull over his or her head before making his or her way through a smoke-filled space to an exit. Such fire and smoke masks are disclosed, for example, in British Patent No. 2129670 and in co-
pending Applications Nos. 8529008 and 8623936.

Whilst, in principle, it should be a simple matter to provide a fire and smoke mask of the type referred to within easy reach of each passenger in an aircraft or the like, for example by mounting the device intended for the use of each passenger on the rear of the back of the seat immediately in front of the passenger, (assuming the seats to be arranged in rows one behind the other as is usual), the difficulty arises that, because people travelling in vehicles tend to interfere with accessible fittings if they can, either absent-mindedly or mischievously, the packing and mounting of such fire and smoke masks must be effected in such a way as to minimise the possibility of such interference, or, if this is not possible, so as to make as simple as possible the task of checking, before each journey or flight in the vehicle or aircraft concerned, whether there is a viable fire and smoke mask-package available at each passenger position and of effecting a ready and inexpensive correction of the situation if such is found not to be the case. It is among the objects of the present invention to provide mounting means for a safety device such as a fire and smoke mask which will meet this criterion or will more nearly meet it than known arrangements.

An embodiment of the invention is described below by way of example with reference to the accompanying drawings in which:-

5 FIGURE 1 is an elevation view showing a mounting arrangement, embodying the invention, for a fire and smoke mask,

FIGURE 2 is a corresponding elevation view of a panel forming part of the arrangement of Figure 1, and

10 FIGURE 3 is a view in section along the lines III-III in Figure 1.

Referring to the drawings, a mounting arrangement for a fire and smoke mask having the general form of a bag of heat-resistant plastics film and which, until required for use, is kept stored in a folded flat condition, 15 comprises a vacuum pack 10 located within a recess 12 in a panel 14. The panel 14 is preferably in the form of a shallow inverted tray formed of sheet plastics material by a vacuum forming technique and having a central substantially rectangular recess to accommodate the vacuum pack 10. As shown in Figure 3, the vacuum pack 10 comprises two parts, each likewise 20 formed by vacuum forming from preferably transparent sheet plastics material, the first part 16 presenting a recess 18 accommodating the folded fire and smoke mask, the recess 18 being bounded by a wall 20 of the first part 22, the second part taking the form of a lid which covers the first part, and which has a peripheral downwardly open channel which receives snugly 25 and sealingly the upper part of the wall 20. As shown in Figure 1, the lid 22 is preferably formed with appropriate ridge formations or corrugations to enhance rigidity. The space 18 which receives the folded fire and smoke mask is evacuated, that is to say the fire and smoke mask is packed under vacuum and the cover 22 is hermetically sealed with respect to the first 30 part 16 (sealing may be enhanced by an appropriate low-strength sealant or adhesive in the channel in the cover 22 which receives the upper edge of the wall 20).

35 The first part 16 is held within the recess in the panel 14 by means of flanges 26, 28, projecting in the plane of the major surface of the first part 16, through corresponding slots formed in the side walls of the recess 12 at the top and bottom of the recess, as viewed in Figure 2. For ease of

illustration, although the pack 10 has itself been omitted in Figure 2, the locations occupied by the flanges 26 and 28 are indicated in broken lines in Figure 2.

5 The recess 12, as best shown in Figure 3, has a peripheral wall which is formed with a peripheral discontinuity or shelf 29 at half its depth, extending around the entirety of the periphery of the recess apart from an inlet 27 at the upper end of the recess as viewed in Figure 2, the shelf 29 being absent over the side wall of the inlet 27. The inlet 27 receives a
10 baffle member 40 as explained below.

As shown in Figure 3, the cover 22 has, along the peripheral edge which is the lower edge in Figure 1, a first flange formation 30 which overlies the shelf 29 and likewise, at its edge which forms the upper edge as
15 viewed in Figure 1, the cover 22 has a further flange which extends over the portions of the ledge 29 on either side of the inlet 27 and which spans the inlet 27. Received in the inlet 27 is a baffle member 39, also vacuum formed from sheet plastics material, providing, along one edge, a flange 40 which projects through a complementary slot formed in the upper wall (as
20 viewed in Figure 1), of the inlet 27 and providing at its opposite side a coplanar flange 42 which extends under the flange part 31. As indicated in Figure 1, the baffle member 39 has an outwardly facing recess which is open along the lower edge of the baffle member 39 as viewed in Figure 1 so that the base surface of the baffle member 40 is at or close to the plane of the
25 shelf 29. A block 46 located behind the end wall of the inlet 27 provides an abutment for the flange 40. The purpose of the baffle member 40 is merely to provide a guide for the hand of a passenger needing the safety device in an emergency and at the same time to ensure that a positive force must be directed on the member 40 to deflect it inwardly towards the base of the
30 recess 12 in order to allow the person's fingers to engage under the upper flange 31 preparatory to pulling the cover off the first part 16 by means of the flange 31 to break the vacuum and allow the fire and smoke mask to be reached.

35 The panel 14 is preferably removably fitted to the underside of the conventional meals tray pivotally mounted in the rear of a seat back of a passenger seat in an aircraft for use by the passenger behind, or, where such

tray is not provided or is provided elsewhere, in an appropriate recess or the like formed in the back of the passenger seat, so that if some mischievous person should break into the fire and smoke mask package in a non-emergency situation, the panel 14, with the first part 16 attached thereto
5 can be removed and replaced by a new unit, including a sealed vacuum pack with fire and smoke mask and the original either discarded or returned for refurbishment to a central station.

If desired, of course, the first part 16 may be formed integrally with
10 the remainder of the panel, thereby simplifying the structure of the latter considerably and allowing it to be formed as a single integer by vacuum forming in sheet plastics in one operation, the baffle 40 being formed in this case by a flexible part of the moulding affording panel 14.

As an additional or alternative means of minimising the risk that a
15 fire and smoke mask pack may be removed by a passenger in a non-emergency situation, for example for a "souvenir" and that such removal may pass undetected, alarm means may be provided which will be triggered when a smoke mask package is opened. In order not to alarm passengers
20 during flight, the alarm may merely be a visual alarm in the pilot's cabin in the aircraft or in an otherwise provided inspection facility not accessible to passengers.

Additionally, of course, the base part of the package, such as the tray
25 or panel 14, may be permanently secured, e.g. chained to the aircraft, vehicle, or the like or to the respective seat thereof.

In order to make it further improbable that the removal of a fire and smoke mask package will not easily pass un-noticed, the package may be
30 incorporated in a detachable headrest or armrest of a seat in such a manner that removal of the headrest or armrest is necessary to allow removal of the package.

It will be appreciated that a fire and smoke mask package of any of
35 the kinds disclosed above may be used in a wide variety of locations, including aircraft, motor coaches, passenger vessels, commercial, public or domestic buildings, etc. When used in buildings the package may be wall-mounted, for example.

CLAIMS

- 5 1. Means for storing a safety device, such as a fire and smoke mask, in a location of possible need, for example a passenger aircraft or vehicle, which means is arranged so as to permit ready access to the device in an emergency, but so as to provide a ready indication that the device has been removed or interfered with so that checking and maintenance of the device or a system utilising such a device is facilitated.
- 10 2. Means according to claim 1 including mounting means for a vacuum sealed pack for the safety device, so arranged that the maintenance of the pack in position in the mounting means is dependent on the maintenance of the vacuum in the pack.
- 15 3. Means for storing a safety device, such as a fire and smoke mask, in a location of possible need including a mounting panel and a pack containing the device, the vacuum pack incorporating a first part secured to said panel, and a second, cover part applied to said first part and readily removable therefrom for removal of the safety device, but so contrived as to be difficult or impossible to replace on said first part in such a way as to be retained thereon.
- 20 4. Means according to claim 3, wherein said pack containing the device is a vacuum pack and is so arranged that the internal vacuum is necessary to retain said second part on the first part.
- 25 5. Means for storing a safety device, such as a fire and smoke mask on a seat, wherein said means is incorporated in a removable headrest for the seat and wherein removal of the headrest is necessary for removal of the device.
- 30 6. Means according to claim 1 or claim 3 and substantially as hereinbefore described with reference to, and as shown in, the accompanying drawings.
- 35 7. Any novel feature or combination of features described herein.